Supreme Court, U.S.
FILED

Cause No. _____ 98 898 JUL 1 1998

OFFICE OF THE CLERK

In the United States Supreme Court

October Term, 1997

JACKIE SMITH, Individually and on Behalf of All Beneficiaries of BERNARD ALLEN, Deceased, *et al.*,
Petitioner,

versus

AMERICAN ISUZU MOTORS, INC. and ISUZU MOTORS AMERICA, INC.,
Respondents,

APPENDICES TO PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

PAUL LeROY CRIST
Post Office Box 980122
Houston, Texas 77098-0122
Telephone: 713-523-1101
Facsimile: 713-523-2002
Counsel of Record for PETITIONER JACKIE SMITH, Individually and on Behalf of All Beneficiaries of BERNARD ALLEN, Deceased, *et al.*

12 pp

APPENDIX A PRINT REQUESTED: MAY 12, 1998
Smith v. Isuzu Motors Ltd., 137 F.3d 859 (5th Cir. 1998)

JACKIE SMITH, Individually and on behalf of all beneficiaries of BERNARD ALLEN, deceased; Plaintiff-Appellant, v. AMERICAN ISUZU MOTORS INCORPORATED; ISUZU MOTORS AMERICAN INCORPORATED, Defendants-Appellees.

No. 97-20056 Summary Calendar

UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

137 F.3d 859; 1998 U.S. App. LEXIS 6599

April 2, 1998, Decided

PRIOR HISTORY: Appeals from the United States District Court for the Southern District of Texas. H-95-CV-3815. Adrian G Duplantier, US District Judge.

DISPOSITION: AFFIRMED.

COUNSEL: For JACKIE SMITH, Individually and on behalf of all beneficiaries of BERNARD ALLEN, deceased, Plaintiff - Appellant: Paul LeRoy Crist, Meyer Orlando & Evans, Houston, TX.

For ISUZU MOTORS LIMITED, Defendant Appellee: Noel Terry Adams, Jr., Houston, TX.
Christopher C Spencer, McGuire, Woods, Battle & Boothe, Richmond, VA. Roberta Mowery Ward, McGuire Woods Battle & Boothe, Richmond, VA.

For AMERICAN ISUZU MOTORS INCORPORATED, Defendant - Appellee: Noel Terry Adams, Jr., Houston, TX. Christopher C Spencer, McGuire, Woods, Battle & Boothe, Richmond, VA. Roberta Mowery Ward, McGuire Woods Battle & Boothe, Richmond, VA.

For ISUZU MOTORS AMERICAN INCORPORATED, Defendant - Appellee: Noel Terry Adams, Jr., Houston, TX. Christopher C Spencer, McGuire, Woods, Battle & Boothe, Richmond, VA. Roberta Mowery Ward, McGuire Woods Battle & Boothe, Richmond, VA.

JUDGES: Before JOLLY, BENAVIDES, and PARKER, Circuit Judges.

OPINIONBY: Judge FORTUNATO P. BENAVIDES

On July 22, 1994, Bernard Allen died in a single-vehicle accident, while driving a 1987 Isuzu Trooper. Allen's mother, Jackie Smith, individually and on behalf of the beneficiaries of his estate, brought suit against American Isuzu Motors, Inc., Isuzu Motors America, Inc., and Isuzu Motors Limited. n1 Smith claimed that the Trooper was unreasonably dangerous because it had a propensity to roll over, that it was not crashworthy because the windshield allowed Allen to be ejected, that Isuzu's warnings were inadequate, and that the defendants were negligent. The district court rendered judgment on a take-nothing jury verdict against plaintiffs.

- - - - - - - - - - - - - - - - - -Footnotes- - - - - - - - - - - - - -

n1 The district court dismissed Isuzu Motors Limited because plaintiffs failed to obtain service of process on it in a timely manner. Smith does not appeal this dismissal.

Appellant challenges three of the district court's evidentiary rulings, which excluded evidence relating to crashworthiness and unreasonable dangerousness. We affirm.

I. We review the district court's evidentiary rulings for abuse of discretion. Johnson v. Ford Motor Co., 988 F.2d 573, 578 (5th Cir. 1993). Under Federal Rule of Civil Procedure 61, we may not set aside a verdict based on an error in the exclusion of evidence, "unless refusal to take such action appears to the court inconsistent with substantial justice." Fed. R. Civ. P. 61. To vacate a judgment based on such an error, we "must find that the substantial rights of the parties were affected." Carter v. Massey-Ferguson, Inc., 716 F.2d 344, 349 (5th Cir.1983).

II. A. Smith first complains that the district court erroneously refused to admit a 1996 Consumer Reports article regarding the stability of 1995 and 1996 Isuzu Troopers. The article gave 1995 and 1996 Isuzu Troopers a "not acceptable" rating because Consumer Reports' testing showed that those vehicles had a propensity to roll over. The article, however, specifically disclaimed its applicability to earlier year-model Troopers: "The Not Acceptable rating does not apply to 1994 and earlier Troopers, which had a slightly different suspension." Id. Thus, the probative value of this piece of evidence was negligible, while the risk of confusing the issues and misleading the jury was significant. See Fed. R. Evid. 403. Accordingly, we conclude that the district court did not

abuse its discretion in refusing to admit the article. n2

B. Plaintiffs next argue that the district court abused its discretion by refusing to admit three memoranda prepared by staff members of the National Highway Traffic Safety Administration (the "NHTSA"). Those memoranda related to a petition filed with the NHTSA in 1986 by Colorado Congressman Timothy Wirth, which asked that agency to establish stability standards for certain types of passenger vehicles. This petition was based on the research of Leon Robertson, who served as an expert for the plaintiffs in this case. The NHTSA ultimately rejected the Wirth petition. Nevertheless, plaintiffs sought to introduce the memoranda, in which NHTSA staff members expressed opinions that support Robertson's methodology and the plaintiffs' theory in this case.

The district court excluded these memoranda on hearsay grounds. Smith argues on appeal that these memoranda satisfy Federal Rule of Evidence 803(8), which excepts certain public records from the general rule that hearsay is inadmissible. That rule exempts:

----------Footnotes----------

n2 Smith argues that the district court did not refuse to admit the article because of the different year models involved but on other grounds. Regardless, this court may affirm a district court's evidentiary ruling on any grounds presented to the district court. See Metallurgical Indus. Inc. v. Fourtek, Inc., 790 F.2d 1195, 1207 (5th Cir. 1986). Defendants-appellees squarely raised the difference in year models as grounds for excluding the article.

Records, reports, statements, or data compilations, in any form, of public offices or agencies, setting forth (A) the activities of the office or agency, . . . or (c) in civil actions and proceedings and against the Government in criminal cases, factual findings resulting from an investigation made pursuant to authority granted by law, unless the sources of information or other circumstances indicate lack of trustworthiness.

Fed. R. Evid. 803(8). We conclude that the district court properly concluded that the memoranda did not fall within the scope of this exception.

Smith first argues that the memoranda qualify as public records within the meaning of Rule 803(8)(A). We disagree. Although NHTSA staff members prepared the memoranda in the course of evaluating the Wirth petition, the memoranda do not "set forth" the "activities of the agency" within the meaning of Rule 803(8)(A). See, e.g., United States v. Vidaure, 861 F.2d 1337, 1340-41 (5th Cir. 1988) (holding that copies of defendant's convictions contained in "pen packet" were admissible under public records exception); Alexander v. Estepp, 95 F.3d 312, 314 (4th Cir. 1996) (holding that county's registry of applicants for firefighter position was a public record under Rule 803(8)(A)), cert. denied, 117 S. Ct. 1425 (1997); United States v. Ramirez, 45 F.3d 1096, 1101 (7th Cir. 1995) (holding that an automobile's title history was admissible under the public records exception).

Smith cites no case law in which Rule 803(8)(A) has been applied to allow the admission of the preliminary or

interim evaluative opinions of agency staff members. Indeed, to apply Rule 803(8)(A) in the fashion Smith suggests would swallow whole Rule 803(8)(C) and its limitations. Rule 803(8)(C) provides a hearsay exception for "factual findings resulting from an investigation made pursuant to authority granted by law" unless those findings lack trustworthiness. If memoranda reflecting the preliminary opinions of agency staff members were admissible under Rule 803(8)(A), then Rule 803(8)(C)'s limitations would be meaningless.

We further conclude that the memoranda do not satisfy Rule 803(8)(C). The memoranda do not reflect "factual findings" of the NHTSA. Rather, they embody the positions and opinions of individual staff members, which the agency ultimately declined to accept. Our conclusion is in accord with other circuits that have held that interim agency reports or preliminary memoranda do not satisfy Rule 803(8)(C)'s requirements. See Figures v. Board of Pub. Util., 967 F.2d 357, 360 (10th Cir. 1992) (holding that a draft of a proposed letter from an area director of a government agency to a municipal administrative agency was properly excluded because it did not represent an agency finding); United States v. Gray, 852 F.2d 136, 139 (4th Cir. 1988) (holding that the district court properly refused to admit a tentative internal IRS referral report because it did not contain "agency factual findings"); City of New York v. Pullman, Inc., 662 F.2d 910 (2d Cir. 1981)(holding that an interim recommendation by a transit authority staff member to the transit authority administrator was not a factual finding of an agency within the meaning of Rule 803(8)(C)); cf. United Air Lines, Inc. v. Austin Travel Corp., 867 F.2d 737, 743 (2d Cir. 1989)

(concluding that the district court did not abuse its discretion in excluding government reports that the district court concluded were untrustworthy because of the "interim or inconclusive nature of the reports . . . ."). The cases relied upon by Smith are inapposite.

For these reasons, we conclude that the district court in this case acted within its discretion in excluding the NHTSA internal memoranda on hearsay grounds.

C. Finally, Smith appeals from the district court's refusal to allow plaintiffs' expert David Lowry to testify to the ultimate issues of crashworthiness and unreasonable dangerousness.

We reject out of hand the plaintiffs' complaint as to Lowry's crashworthiness opinion. The factual basis underlying Smith's crashworthiness theory was that Allen was ejected through the Trooper's windshield. The jury, however, specifically found that Allen was not ejected through the windshield, and Smith does not challenge that finding on appeal. Thus, the error, if any, in excluding Lowry's opinion on crashworthiness did not affect Smith's substantial rights.

As to the exclusion of Lowry's opinion on unreasonable dangerousness, the district court sustained Isuzu's objection that plaintiffs had failed to offer a sufficient foundation for his testimony. Plaintiffs did not attempt to provide further foundation for Lowry's testimony at trial and do not provide any argument on appeal as to why the foundation offered was sufficient. Under these circumstances, we

conclude that the district court did not abuse its discretion in excluding his testimony as to the ultimate issue of unreasonable dangerousness.

Moreover, even if the plaintiffs had offered a sufficient foundation for Lowry's opinion as to the ultimate issue of unreasonable dangerousness, we find it unlikely that the absence of that testimony affected the plaintiffs' substantial rights. Lowry was allowed to testify that the Trooper had a higher-than-average center of gravity, a narrower-than-average track width, and that these features made the vehicle more likely than other vehicles to roll over. Additionally, plaintiffs' expert Robertson was permitted to testify that the Trooper was unreasonably dangerous because of its tendency to roll over. n3

III. For these reasons, the judgment of the district court is AFFIRMED.

----------Footnotes----------

n3 Plaintiffs argue that the exclusion of Lowry's testimony was harmful because Robertson was a statistician, while Lowry was an engineer. We are unpersuaded.

APPENDIX B:

61 CONSUMER REPORTS, No. 10; Pg. 10 (October, 1996)

FIRST NEXIS COMPONENT OF SERIES
SECTION: Vol. 61, No. 10; Pg. 12
LENGTH: 470 words

HEADLINE: How the two SUVs failed our avoidance test

BODY:

The emergency-handling test in which the Isuzu Trooper and Acura SLX ran into trouble was designed to tell us how well a car responds if you have to turn quickly to avoid an obstacle in the road. We subject every car we test to an avoidance maneuver.

As our main report describes, we set up traffic cones to simulate standard-width road lanes; the path through the course requires quick turns to the left, right, and left again. Our testers enter the course at successively higher speeds until the vehicle can't go through without hitting one or more cones. Every vehicle "fails" the test at some speed; we score a vehicle partly on how fast it can successfully negotiate the course and partly on how confident the drivers feel about the vehicle's behavior.

We use two avoidance-maneuver tests. Our standard "long" course simulates a highway avoidance maneuver at 45 to 55 mph. We run all the vehicles we test on this course.

In addition, because we know from experience that they are inherently less stable than passenger cars, we evaluate all the sport-utility vehicles, newly designed minivans, and compact pickups we test by running them through an additional avoidance maneuver: a slower and shorter course that simulates suburban speeds of 35 to 45 mph. It's more demanding because its turns are sharper.

In the long course, the Trooper lifted both its right wheels in several runs, at speeds between 43 and 45 mph. In the short course, the Trooper tipped way up at about 33 mph and threatened to roll over completely. That's when we decided to test the SLX so we could verify whether both vehicles would respond in the same way.

By contrast, the Toyota 4 Runner went through the short course cleanly at 39 mph; the Nissan Pathfinder, at 38 mph; and the Chevrolet Tahoe, at 37 mph. None lifted their wheels off the road, even when they finally knocked over cones at higher speeds.

To protect our drivers in subsequent trials, we then attached safety outriggers to our Trooper and SLX. So equipped, the Trooper and SLX negotiated the short course without knocking down any cones (but with some wheel-lifting) at speeds of up to 38 mph. However, they tipped up severely several times at speeds ranging from 37 to 41 mph.

Since 1988, when we inaugurated the short course, only two other SUVs have exhibited this problem. The 1988

Suzuki Samurai lifted two wheels suddenly and dramatically, and it would have rolled over without our outriggers. We rated it Not Acceptable. The 1989 Ford Bronco II also lifted two wheels, but quite slowly and not nearly as high as the Samurai. We judged the Bronco II's emergency handling poor, and we recommended that consumers avoid buying it. The Trooper and SLX demonstrated behavior much more like the Samurai in this particular test.

GRAPHICS:

Graph, Short-course avoidance maneuver. Drivers enter test course at successively higher speeds, drive over a timing strip, and try to negotiate a quick left-right-left maneuver without knocking over any traffic cones. To limit variability, they coast through in gear, without using accelerator or brakes.

Photographs, Test results. The pictures show follow-up tests of four sport-utility vehicles in the act of negotiating the toughest part of our avoidance-maneuver test. From the top: The Toyota 4 Runner, the Nissan Pathfinder, the Chevrolet Tahoe, and the Isuzu Trooper (fitted with safety outriggers).

LANGUAGE: ENGLISH

LOAD-DATE: October 02, 1996

SECOND NEXIS COMPONENT OF SERIES

SECTION: Vol. 61, No. 10; Pg. 10

LENGTH: 1651 words

HEADLINE: SPECIAL REPORT. SUV SAFETY.
Not Acceptable. Isuzu Trooper/Acura SLX.

BODY:

Usually it's just another of our routine tests - a double-lane-change course, marked with traffic cones, that simulates a situation a driver would face in an unexpected emergency, such as a child running into the road. The test involves a quick turn into the left lane to avoid the problem, an immediate turn to the right to avoid oncoming traffic, and a final turn to the left to get back into the original lane. This is not a stunt maneuver; it tests how the vehicle would behave in a real emergency. Automakers and automotive researchers use similar handling tests to gauge the performance limits of vehicles.

We expect most cars to skid a bit on this course when we drive them fast enough. But we found something disturbing when we drove the Isuzu Trooper through the course. This sport-utility vehicle (SUV) lifted both its right wheels a few inches off the pavement several times when tested above 40 mph.

Because sport-utility vehicles as a class are less stable than cars, we also test them on a shorter, more demanding

course with somewhat sharper turns to evaluate their stability under these conditions. On this short course, at just over 33 mph, the Trooper lifted both right wheels high off the pavement. It would have rolled over completely if not for our test driver's quick and skillful steering.

We decided to study this vehicle's behavior further and also to check the Acura SLX - basically a Trooper with an Acura nameplate, introduced as a 1996 model. To avoid putting our drivers at further risk, we mounted a pair of outriggers - similar in function to bicycle training wheels - on both vehicles before conducting additional tests. If either vehicle tipped severely, the outriggers' wheels would prevent it from rolling over completely. We use outriggers only rarely, when we have reason to suspect a vehicle may handle in a way that could endanger our drivers.

Our outriggers have a minimal effect on vehicle performance because they are mounted low on the frame and add about 300 pounds to the total weight (the Trooper's test weight was around 4600 pounds). But even with the outriggers, the 1996 Trooper and the SLX repeatedly tipped up in our follow-up tests. We also put a new 1995 Trooper through these tests and found the same problem. The three other big SUVs we tested for this issue, covered in the road test report, did not show even a hint of this problem.

Sharp turns like those in our tests aren't typical of ordinary, day-to-day driving, and most drivers would

seldom encounter a situation that requires such evasive maneuvers. But such emergencies do arise, and, when they do, we strongly believe a vehicle must respond safely and controllably, something the Trooper and SLX clearly failed to do.

As a result of our tests, we've rated the 1995 and 1996 Isuzu Trooper and the 1996 Acura SLX Not Acceptable. The last time we rated a vehicle Not Acceptable was in 1988, when the Suzuki Samurai, a small SUV, exhibited a similar rollover tendency in these same tests.

The Not Acceptable rating does not apply to 1994 and earlier Troopers, which had a slightly different suspension. When we tested the Trooper in 1992, we reported that it "handled very sloppily and leaned a lot through our avoidance course." In other respects, however, the Trooper was and is well designed. It's a big, roomy vehicle with competent brakes, comfortable seats, and a much-better-than-average reliability record. That's why we continued to recommend it in our 1995 and 1996 Annual Auto Issues, which also gave the date of the last full report. We now withdraw our earlier recommendation of the 1995 and 1996 Trooper and of the 1996 Acura SLX.

Suspension "upgrades" introduced for 1995 may account for the propensity to roll over we found when we tested the Trooper this time. In a press release for the 1995 Trooper, Isuzu said the suspension modifications it had made in that model "enhance overall handling, both on- and off-road."

On the contrary, our testing suggests that these changes allowed the body to lean more and, in the case of emergency maneuvers, worsened handling.

SUVs and accidents

Big SUVs, with their heavy body and high stance, tend to come off relatively well in frontal- and side-impact crashes. The overall driver death rate for big SUVs is lower than for most cars, partly because the size and weight of big SUVs protect occupants in crashes with smaller vehicles. The death rate may also be lower because these expensive vehicles tend to be driven by older, presumably more cautious people. But neither size nor caution helps if the SUV rolls over in an emergency situation like the one simulated by our test.

SUVs as a class are less stable than conventional passenger cars, primarily because they have a higher center of gravity. They need extra ground clearance for negotiating rough terrain. And for maximum maneuverability in brush, they tend to be relatively narrow and short - factors that also contribute to instability. The Trooper and SLX, for example, are 16 inches higher, 6 inches narrower, and 32 inches shorter than the Buick Roadmaster, a large sedan that weighs about the same.

We take emergency handling very seriously and consider a tendency to roll over of paramount importance because rollovers are a particularly lethal type of accident. In single-vehicle accidents, for example, the occupants are more than twice as likely to die if a rollover is involved.

Between 1991 and 1994, according to Government figures, 29 percent of passenger-vehicle occupants killed on the highway - about 9000 people a year - died in rollover accidents. For SUVs, the figures are especially alarming: Almost two-thirds of all SUV fatalities involved a rollover. In 1994, rollovers were involved in just 1.6 percent of all passenger-car crashes, but in 4.7 percent of sport-utility crashes, according to Government estimates.

We found no meaningful national statistics on rollover fatalities or injuries specifically for the 1995 or 1996 Trooper, or 1996 SLX, but that's not surprising; relatively few had been sold by the time the latest statistics had been gathered.

Needed: A safety standard

The National Highway Traffic Safety Administration (NHTSA) has long been aware that vehicle rollovers are a serious problem, particularly with SUVs. Unfortunately, its only response has been to require all SUVs with a wheelbase of 110 inches or less to carry a label stating that, "As with other vehicles of this type, if you make sharp turns or abrupt maneuvers, the vehicle may rollover or may go out of control and crash."

Both the Trooper and the SLX carry that label, but a label is no protection in an emergency when a driver must make a sudden maneuver. Eight years ago, we petitioned NHTSA to establish a standard to keep rollover-prone models off the road.

NHTSA considered establishing such a standard several times, but has not done so. It tried to develop a method of predicting rollover by using simple measurements and "static" tests in which the vehicle isn't moving, but that proved unworkable. In our view, an effective rollover standard has to reflect how vehicles act when in motion - especially when turning sharply, the ultimate test of emergency handling. But in June the agency said it would end its efforts to develop a rollover safety standard.

On the basis of our tests of the Trooper and the SLX, we have petitioned NHTSA to develop an emergency-handling test that would detect SUVs prone to rollovers and would establish a standard that would keep rollover-prone vehicles off the market.

We also think NHTSA should beef up both the quality and the quantity of the information it gathers. Consumers depend on this agency to make them aware of problems in a timely way.

Currently, NHTSA gathers far too little information on nonfatal accidents to be able to tell the injury rate or rollover rate of individual makes and models. Out of several million tow-away crashes that happen each year, NHTSA gathers detailed information on a statistical sample of just 5000. It also gets 50,000 police reports of accidents from around the country, but that information varies a lot in quality and consistency from state to state. For many analyses, NHTSA must depend on police reports from just five states whose reporting methods are reliable enough to be of some use.

In the meantime, here's what we recommend: If you're considering buying a 1995 or 1996 Trooper or an Acura SLX, don't. If you already own one, drive it only when necessary and use extreme caution. Drive especially slowly in areas like residential neighborhoods where you may have to turn suddenly to avoid a child darting into the road, or deal with some other emergency.

It may sometimes be difficult for a driver to sense that a vehicle is tipping. But if you feel one side lifting, steer in the direction of the roll. If the vehicle is tipping toward the left, for instance, steer left.

Be especially careful when you take any SUV off-road. A speed of no more than 5 mph is fast enough for rough terrain. It's also wise to avoid using a roof rack if you're driving an SUV. Tying a load to the roof raises the center of gravity and, thus, makes a vehicle more rollover-prone.

Careful driving, however, is ultimately not the answer to this problem. Isuzu and Acura should never have allowed these vehicles on the road. We have called on them to halt sales immediately and, as soon as possible, to repair vehicles that have been sold or offer their owners a refund or replacement. In addition, we have invited Isuzu and Acura to our Auto Test Center to discuss our results and our test methods. We have also asked NHTSA to open a defect investigation, which could lead to a mandatory repair or refund; we will continue to press for that result.

GRAPHIC: Tip-up. This photograph was taken when the Isuzu Trooper unexpectedly lifted both wheels high off the pavement. Because of this behavior, we used safety outriggers in follow-up tests;

Transcript page 250 starting at line 21 with [Petitioner's Counsel] MR. McELROY: The next one Your Honor is

22 Plaintiffs' Exhibit 9-4, which is the CONSUMER REPORTS

23 article of October, 1996, right here.

24 THE COURT: All right. Do you object to it?

25 MR. SPENCER: Yes, sir. This is the one you [carry over to page 251]

1 previously ruled was not coming in.

2 THE COURT: And you object to him referring to it

3 as well.

4 MR. SPENCER: Yes

5 THE COURT: I sustain the objection. It's not a

6 scientific publication. Okay? Let's go. It's a

7 periodical and it fits that part of [Rule 803](18), but it

8 is clearly not of a scientific nature. Okay?

9 MR McELROY: But it is the kind, I argued, that

10 experts commonly rely upon.

11 THE COURT: That may be nice, but it doesn't fit

803(18). And I go by the Rules of Evidence, not what experts do. Okay? And it's not covered by 803(18) because its not of a scientific nature or the other words in that. Okay?

APPENDIX C:

Trial Transcript page 93 starting at line 3 with Petitioner's expert Leon S. Robertson's direct examination:

A. The Harwin and Brewer study and the Mangert study, the technical assessment paper that we talked about.

Q [byCounsel MR. McELROY]: Who is Mangert?

A. He's a statistician who works at the Transportation -- I may not get it exactly right. It's a transportation research center in Cambridge, Massachusetts. It's part of the U.S. Department of Transportation.

Q. What does his study say about stability in roll-over?

A. He says that the best predictor of roll-over is static stability.

Q. What did Mangert say about your own research?

MR. SPENCER: Object to the form of the question, Your Honor.

THE COURT: I'll sustain it.

By Mr. McElroy:

Q. Can you tell us whether or not Mangert agreed with and confirmed the results of your studies?

MR. SPENCER: Same objection.

THE COURT: Same ruling. Sustained.

By Mr. McElroy:

Q. Have you seen the memorandum from inside the NHTSA about the Worth [*sic*] Petition?

A. Yes. [onto page 94]

Q. What do we mean by the Worth [*sic*] Petition?

A. In 1986, there was a U.S. representative in Congress from Denver area named Timothy Worth who petitioned the National Highway Traffic Safety Administration to set a standard for static stability of 1.2.

Q. How did you get this memorandum about the Worth [*sic*] Petition from inside NHTSA?

A. I actually got it here in Houston. There was a hearing on Bronco II --

MR. SPENCER: Object to that, Your Honor.

THE COURT: I sustain the objection. It doesn't matter where he got it from. It's completely irrelevant.

By Mr. McElroy:

Q. Well, what does this memorandum say?

MR. SPENCER: It's hearsay, Your Honor. Object.

THE COURT: Sustained.

By Mr. McElroy:

Q. Have you been able to determine the position taken by the technical staff of NHTSA with regard to the petition filed by Senator Worth for a stability standard?

MR. SPENCER: Hearsay. No foundation.

THE COURT: Sustained.

By Mr. McElroy:

24 Q. Do you have a memorandum from Michael

25 Finkelstein to Barry Felric? [onto page 95]

1 A. Yes.

2 Q. Was that a memorandum with regard to the denial

3 of the petition by NHTSA?

4 A. Yes.

5 Q. Who is Michael Finkelstein?

6 A. He was head of the Research Division of the

7 National Highway Traffic Safety Administration.

8 Q. Who is Barry Felric -- F - e - l - r - i - c?

9 A. He was associate administrator for the rule-making

10 who wrote the denial in the FEDERAL REGISTER.

11 Q. He wrote the denial of the rule-making petition of

12 Senator Worth? [*Sic*]

13 A. That's correct.

14 Q. What was the petition seeking to do?

A. To set a minimum standard of static stability at 1.2.

Q. For all vehicles or for utility vehicles?

A. They discussed doing a separate standard for separate vehicles and said that that wasn't a good idea, that it would have to be the same standard for all vehicles. but the rejected any standard.

Q. And what did the memorandum from Finkelstein to Barry Felric say?

MR. SPENCER: Same objection.

THE COURT: Sustained

The jury needs to understand that, one, [carry over to page 96] juries don't get to hear from memoranda that are just out there. It's completely inadmissible to suggest that we ought to get into evidence a memorandum just written by somebody and that you would place any weight upon that sort of thing. I say that to you

because counsel persists in offering it.

You may proceed.

By Mr. McElroy:

Q. Who was the head of the National Highway Traffic Safety Administration, NHTSA, when the Worth [*sic*] Petition for the standard of T over 2H equals 1.2 or greater was rejected?

MR. SPENCER: Relevance, Your Honor.

THE COURT: Who was what? The head of some agency?

MR. MCELROY: Yes, Your Honor.

THE COURT: I'll sustain it unless you can tie it into something that has something to do with this case.

MR. MCELROY: Well, we think we can.

THE COURT: I sustain it at this point.

By Mr. McElroy:

22 Q. Do you know that person's current position?

23 MR. SPENCER: Same objection, Your Honor.

24 THE COURT: Same ruling.

25 By Mr. McELROY:

PLAINTIFF'S EXHIBIT 35-1

[DOT-NHTSA Logo] Memorandum

Date: April 14, 1987

Subject: Comments on Draft Evaluation -- Congressman Wirth Petition to Limit Rollover Propensity

From: Adele Spielberger
Associate Administrator for Plans and Policy

To: Barry Felrice
Associate Administrator for Rulemaking

First, we would like to commend Rulemaking for producing a highly comprehensive evaluation report in response to the Wirth petition. This type of report is necessary to allow the agency to respond to a complex and difficult subject. The report presents a strong counter-argument to the Robertson/Kelley report findings, which provided the basic support for the petition.

However, the Robertson/Kelley report, the agency's evaluation report, and the other reports cited, all recognize that utility vehicle rollover rates are high enough to warrant further action. Further, the Robertson/Kelley report and the agency's evaluation report both recognize that there is

some correlation between the petitioner's proposed stability factor and rollover. While the stability factor may not be the answer, it may play a role as part of some combination of factors that could be used as a future regulation or guideline. Accordingly, we believe that the petition should be granted. The notice of grant could describe the analysis which leads to the preliminary conclusion that the stability factor is not the answer. It should also go on to describe what the agency believes is an appropriate plan for evaluating rollover propensity. The discussion on page 11 of the NRM Draft Evaluation, could form the basis of such a plan.

We belive[*sic*] that it will be particularly troublesome for the agency to justify denying the petition following on the heels of sending the "Light Truck and Van Safety" Report to Congress, which documents that the MPV fatality rate in rollover crashes is 196 percent above the average for light trucks and passenger car [*sic*] combined. The report also documents that MPV's roll over 2 to 3 times more often than passenger cars and states that the higher center of gravity of these vehicles is a contributing factor.

If you disagree with our recommendation to grant the whole petition, then we believe the whole petition should be denied. We do not believe the action requested by Item 4 should be granted in part. While the approach taken to notify [Jeep-]CJ owners may have played an important role in reducing rollover rates, the high negative publicity that was given to these vehicles at about the same time may also have been a significant influence. Thus, if the same type

of rationale is being used to deny other parts of the petition, i.e., they do not seem to be the answer, it would seem appropriate to deny the notification proposal on the same grounds.

cc: Chief Counsel
AA/Enforcement
AA/Research and Development

PLAINTIFF'S EXHIBIT 35-3

[DOT-NHTSA Logo] Memorandum

Date: April 3, 1987

Subject: ACTION: Draft Evaluation -- Congressman Timothy E. Wirth petition to issue an FMVSS to "limit the rollover propensity of passenger automobiles, utility vehicles and pickup trucks."

From: Barry Felrice [signed Barry Felrice]
Associate Administrator for
Rulemaking

To: DISTRIBUTION

Attached is a Draft Evaluation of the subject petition submitted by Congressman (now Senator) Timothy E. Wirth. This petition, dated September 16, 1986, requested that the National Highway Traffic Safety Administration (NHTSA) take the following actions:

1. Propose a Federal Motor Vehicle Safety Standard (FMVSS) to require that the rollover propensity of light duty vehicles, including passenger cars, light trucks, and multipurpose passenger vehicles, be limited by requiring that they have a stability factor, defined as the vehicle's half-track width divided by the vehicle's center of gravity

height, of a specified value. The petitioner recommended that the agency consider a value of 1.2 for that minimum stability factor.

2. Conduct a defect investigation of those existing vehicles whose stability factor does not meet the minimum required by the above requested FMVSS.

3. Obtain and publish stability factor information for vehicles being manufactured for sale in the U.S. and make it available to the public.

4. Immediately warn the owners of those vehicles with the greatest propensity to rollover of the limits of these vehicles and give them information as to steps that they can take to prevent death and injury.

The petitioner alleges that the rollover propensity of vehicles whose stability factor is less than 1.2 is so great and that the relative numbers of deaths and injuries are so high that their manufacture should be prohibited. A review of the information submitted with the petition and an analysis of data from the Fatal Accident Report System (FARS) indicated that the petitioners request for an FMVSS was not justified and that the stability factor was not an adequate or reasonable predicator of a vehicle's rollover propensity. It was found that warning vehicle owners of possible dangers of specific vehicle features and/or vehicle limitations may be effective. Based on these

results, detailed in the attached Draft Evaluation, it is recommended that the subject petition be granted-in-part. The action requested by Item 4, above, should be taken and it is that portion of the petition that would be granted, and the other portions of the petition would be denied.

Please review the draft evaluation and submit your comments withing 10 days of receipt.

DISTRIBUTION:
Chief Counsel
Associate Administrator for Enforcement
Associate Administrator for Research and Development
Associate Administrator for Plans and Policy

DRAFT EVALUATION OF RULEMAKING PETITION 1

I. TITLE 1

II. BACKGROUND 1
A. Subject Petition 1
B. Previous NHTSA Activities Related to Vehicle Rollover 1
C. Previous Analyses of Accident Data 2

III. DISCUSSION 2
A. Overall Safety of Utility Vehicles 3
B. Potential Impact of the Requested Regulation . . . 5
C. Rollover Accident Involvement of Utility Vehicles 5
1. Review of Data Submitted with Petition 5
2. New Accident Data Analyses 6
a. Evaluation of the Stability Factor as a Predictor of Accident Involvement 6
b. Evaluation of the Impact of Other Factors on Accident Involvement 9
i. Evaluation of the Impact of the Federal Trade Commission/American Motors Corporation Consent Agreement on Accident Involvement of Jeep CJ-model Vehicles 9
[no ii exists]

IV. RECOMMENDATIONS 10
A. Recommendations Related to the Petitioner's Request 10
B. Other Recommendations 11

DRAFT EVALUATION OF RULEMAKING PETITION

I. TITLE

Congressman Timothy E. Wirth (now Senator Wirth) petition to issue a Federal Motor Vehicle Safety Standard (FMVSS) to "limit the rollover propensity of passenger automobiles, utility vehicles, and pickup trucks."

II. BACKGROUND:

A. Subject Petition

The National Highway Traffic Safety Administration (NHTSA) received the subject petition (Attachment 1), dated September 12, 1986, requesting that the agency take the following actions:

1. Propose an FMVSS to require that the rollover propensity of light duty vehicles, including passenger cars, light trucks and multipurpose passenger vehicles, be limited by requiring that they have a stability factor, defined as the vehicle's half-track width divided by the vehicle's center of gravity height, of a specified value. The petitioner recommends that the agency consider value of 1.2 for that minimum stability factor.

2. Conduct a defect investigation of those existing light duty vehicles whose stability factor does not meet the minimum required by the above FMVSS.

3. Obtain and publish stability factor information for vehicles being manufactured for sale in the U.S. and make it available to the public.

4. Immediately warn the owners of those vehicles with the greatest propensity to rollover of the limits of these vehicles and give them information as to steps that they can take to prevent death and injury.

The petitioner alleges that the rollover propensity of vehicles whose stability factor is less than 1.2 is so great and that the relative numbers of deaths and injuries are so high that their manufacture should be prohibited. This conclusion is based on analysis contained in and the conclusions drawn in a study titled "The Role of Stability In Rollover-Initiated Fatal Motor Vehicle Crashes Under On-Road Driving Conditions" by L.S. Robertson and A.B. Kelley (a copy of that report is included with the subject petition). A review of that study will be discussed later.

B. Previous NHTSA Activities Related to Vehicle Rollover

As mentioned in the subject petition, in 1973 the agency issued an Advance Notice of Proposed Rulemaking on Rollover Resistance (Attachment 2). After reviewing the comments to that notice and after conducing several research studies related to vehicle control and stability, one of which, titled "Development of Vehicle Rollover Maneuver", specifically addressed the task of developing a rollover test maneuver, the agency discontinued activity in this area. There were several reasons for that decision. One was that the "Rollover Maneuver" study was unable

to produce a valid and repeatable test procedure, and concluded that a "general test procedure for producing vehicle rollover under realistic flat surface conditions cannot be devised." Another reason relates to other factors that can contribute to vehicle rollover. The study concluded that although a vehicle's rollover resistance is dependent on its stability factor "to first order", that resistance to rollover, "can, however, be degraded by other design and operational features under real-life performance conditions". Until the influence of those other factors on real world accidents is better understood, agency action could not be justified.

In October 1979, and in July 1981, the Office of Defects Investigation received petitions to conduct investigations concerning the stability of Jeep CJ-5 vehicles. Both of these petitions were denied based on a lack of specific information that would indicate that there is a distinct vehicular defect which would be causal to a rollover accident. (Copies of the denial letters to those petitioners are included here as Attachments 3 & 4).

C. Previous Analyses of Accident Data

A number of accident data nalyses and reports related to rollover accidents were reviewed as part of the analysis of the usbject petition. This included most of those referenced in the subject petition and in the accompanying report. Rather than disucss each report separately, they will be referenced where data or conclusions contained in them is discussed. Several very recent studies related to rollover accidents, which discussed

virtually all of that previous work on the subject, were also reviewed and the discussion will focus on these reports.

III. DISCUSSION

The discussion and analyses that follow will basically be limited to utility vehicles. There are two reasons for this approach. The first is that although the subject petition asks for rulemaking which would apply to all light duty vehicles, it is clear from some of the discussion and the paragraph following the petition's conclusions on page 7, that the major focus of the request relates to utility vehicles. The other reason, which will become clearer as the discussion progresses, is that an analysis of the effects of vehicle, driver, environment and usage factors is most appropriately done by considering only one class of vehicle, since many of a vehicle's basic characteristics, its accident exposure, and its involvement in various accident types are related to the mission and driver for which it was designed.

Before discussing the issue of rollover accidents, some comments on the overall safety of utility vehicles and other light duty vehicles, and the potential impact of the requested regulation are appropriate.

A. Overall Safety of Utility Vehicles

A recent report titled "Relative Risk to Occupants of Cars, Vans, Pickups, and Multipurpose Vehicles by Vehicle Size" (Attachment 5) prepared by the Mathematical Analysis Division of the National Center of

Statistics and Analysis (NCSA) includes several tables which address the involvement of various vehicle types in accidents of varying levels of severity (see Tables 1, 2, 3, 4, 5 and 6 of that report). These tables show a mixed result for utility vehicles. On the one had, the fatality per registered vehicle rate (Table 1) for MPV's is higher than that for all vehicle classes, except small pickups, based on 1985 FARS data, and their incapacitating injury per vehicle occupant rates for all accidents (Table 4) and for tow away accidents (Table 5) are the highest of all vehicle classes, based on 1984-1985 North Carolina data. On the other hand, their rate for all injuries per registered vehicle (Table 3) is 1/3 lower than that for all vehicle classes, their rate of involvements per registered vehicle in all accidents (Table 6) is lower than that of all classes except small vans and their incapacitating injury per registered vehicle rate (Table 2) is lower than the average and is comparable to that of medium size passenger cars.

This report also examined accident data for various crash impact modes, including rollovers. The rollover accident data analysis shows that MPV's rank the highest (worst) for all measures of accident, injury, and fatality involvements. It is just this high involvement in rollovers that seems to have led to the subject petition, but as the preceding discussion indicates there are other accident modes in which MPV's, and therefore utility vehicles, fare much better than other vehicle classes.

A recent Calspan Corporation (Calspan) study performed for the Motor Vehicle Manufacturers Association (MVMS) titled "A Comparison of Light Truck

and Passenger Car Occupant Protection in Single Vehicle Crashes" (Attachment 6) specifically addressed utility vehicles and other vehicle classes in rollover and nonrollover crashes. This study examined data from MCSA's National Accident Sampling System (NASS) for 1982-84 and Washington State data for 1980-84. A table of overall occupant injuries by vehicle type from that report is reproduced as Table 1.

Note that for all single vehicle crashes utility vehicles do not exhibit significantly higher injury rates except for occupant fatalities in the NASS data. This information together with the overall accident involvement rate data from the MCSA report seems to indicate that utility vehicles overall are not involved in more accident and in all but the most severe accidents do not produce significantly greater injuries. However, it is also obvious that their fatality rates are significantly higher.

**Note: Utility vehicles are defined as multipurpose vehicles (MPV's) that have a wheelbase of less than 110 inches. A review of the 1985 R.L. Polk vehicle registration data indicates that nearly 90% of multipurpose vehicles meet that criteria. For that reason, the results of this report for MPV's will be assumed to apply to utility vehicles.

This higher fatality rate could be caused by a number of factors including:

1. They are more involved in particular crash types that have higher fatality rates,

2. their average occupancy rates are higher in serious crashes, exposing more occupants to fatal injuries, or

3. their crashworthiness in general or in some specific crash types is poorer than that of other vehicles.

Several accident analysis reports were examined to see if any information on these factors was available.

Both the NCSA and Calspan reports, as well as a recent study performed by Calspan for the Federal Highway Administration (FHWA) titled "Rollover Potential of Vehicles on Embankments, Sideslopes, and Other Roadside Features", indicate that utility vehicles are involved in rollover accidents from 2.5 to 5 times more often than passenger cars. Each of these reports indicate [*sic*] that fatality rates for all vehicle classes is greater for rollovers.

As for the issue of vehicle occupancy, a paper presented to the American Association for Automotive Medicine in 1982 titled "Comments on the Paper-Rollovers and Serious Driver Injury Differences Among Various Utility Vehicles, Pickup Trucks, and Passenger Car Groups" by Hans C. Joksch (Attachment 7) examined 1978 FARS data, and concluded that, at least for the Jeep CJ-5 which comprises over 1/3 of MPV's, the average vehicle occupancy was higher, especially in single vehicle rural crashes (which happen to have particularly high fatality rates for all vehicle types).

The Joksch paper also includes an analysis of single and multi-vehicle crashes (excluding crashes with overturn as the initial event) for passenger cars, convertible passenger cars, and several models of utility vehicles. This analysis shows that convertibles' fatal accident involvement is similar to that of the Jeep CJ-5 and Ford Bronco, utility vehicles with no, or at least minimal, roof structure, and that the involvement for the convertible and CJ-5/Bronco vehicles is significantly different from that of passenger cars. Also, the MVMA/Calspan study found that the rate of ejections of unrestrained drivers in single vehicle crashes for utility vehicles is twice that of passenger cars, again a factor that is shown to result in higher fatality rates for all vehicle types. The data upon which this estimate was made was not detailed enough to determine the reason for the high rate of driver ejections, whether they related to open vehicles, or ejections through doors or window/windshield openings.

These results indicate significantly reduced occupant protection for utility vehicle occupants compared to those of passenger cars.

B. Potential Impact of the Requested Regulation

As was previously mentioned, utility vehicles seem to be the particular vehicle class of most concern to the petitioner. From the data on the stability factors of the sample of utility vehicles that will be used later in this analysis, it is obvious that the manufacture of almost all of these vehicles would be prohibited, if the specific request of the petitioner were granted. However, a large portion

of pickup trucks, both 4-wheel and 2-wheel drive, vans, and probably some portion of sub-compact and compact passenger cars would also be affected. This is seen in the summaries of stability factor data included as Attachments 8 & 9.

Such a tremendous impact on the manufacturers of light duty vehicles, and on the choice of vehicles available to the consumer would require that a very positive and unquestionable effect of vehicle stability factor on rollover accident involvement be made.

This is particularly true for utility vehicles, since such a requirement would virtually outlaw that class of vehicles. This class of vehicles constitute over 2% of the light duty vehicle fleet, and those consumers who desire vehicles with the specific features exhibited by these vehicles, would no longer have such vehicles available.

C. Rollover Accident Involvement of Utility Vehicles

1. Review of Data Submitted with Petition

The conclusions drawn in the NCSA, and both Calspan studies discussed earlier agree that utility vehicles as a class have the highest rollover rate, and the holds for every method used to measure rate. These include percent of accidents, percent of single vehicle accidents, percent of occupants injured, and involvements, injuries and fatalities per registered vehicle.

The petitioner argues, based on the conclusions of the Robertson/Kelley report, that these high rollover rates are due to the low values of stability factor that are representative of utility vehicles. The first question to address in evaluating the appropriateness of the petitioner's request is the examine the validity of the conclusions of the Robertson/Kelley report. Rather than discuss this at length, the conclusions of a review and critique of that report that were conducted by NCSA staff will be reviewed. These conclusions are in the form of a series of questions about the report and NCSA's answers to those questions.

a. Is the sample of vehicle models used in their analyses representative of the universe of interest? No

b. Do the analyses model the inherent complexity of fatal accidents by including interactions? No

c. Do the analyses model complexity by including a reasonably large number of predictor variables? No

d. Do the analyses rule out competing hypotheses? No

A complete discussion of these questions and the reasons for the answers shown are included in a November 7, 1986, NCSA Memo-Critique of the Robertson/Kelley report (Attachment 10).

2. New Accident Data Analyses

In an attempt to review the validity of the conclusions of the Robertson/Kelley report, additional analyses of FARS data for utility vehicles were performed. This was done by addressing some of the shortcomings of that report that were mentioned earlier. If the analyses performed in the Robertson/Kelley report are at question, what impact does that have on the petitioner's request?

a. Evaluation of the Stability Factor as a Predictor of Accident Involvement

First, even if the analyses are not valid, the conclusions might still be correct. In order to address this question, the data base of vehicles used in the Robertson/Kelley report was expanded and the analyses were limited to only utility vehicles so that the impact of confounding driver, environment and usage factors would be reduced. Also, in order to reduce the influence of uncontrolled factors, rollover rate was defined as rollover accidents as a percent of single vehicle accidents, rather than all accidents. This is the much more common approach to examining rollover tendencies, and is used in many of the earlier reports referenced in the Calspan/FHWA report.

One additional reason for choosing this measure is that using a rate based on all accident types when comparing different vehicle types can create significant unintended biases in the results. For the analysis in question, this is just the case. As was shown in the

previous discussion of the overall safety of utility vehicles, these vehicles have much different levels of relative safety than other vehicles depending on the type of crash. Including multi-vehicle crashes in comparison of rollover tendencies of different vehicle classes includes too many confounding and uncontrolled factors to be of much use. By including multi-vehicle accidents, in which utility vehicles have fatality rates much lower than passenger (see Tables 7, 13, and 19 of the NCSA report), in a comparison of rollover involvement, the relative rate for the utility vehicles will be exaggerated. Even the Robertson/Kelley report shows this in their Figure 3, which shows the Blazer having a quite low fatality rate for multi-vehicle accidents, and the Bronco and CJ models have a rate lower than all but 2 of the 11 passenger cars in the analysis.

This expanded analysis used 1981 thru 1985 FARs data and the criteria used were for single vehicle accidents, single vehicle accidents involving at least one occupant fatality and for rollover accidents, the subset of the single vehicle accidents that involved rollover as first or subsequent event. The stability factors used were generated from measured center of gravity heights and track widths that were gathered from a number of sources (a summary of that data is included as Attachment 11). In cases where more than one set of cg and track width data for vehicle were available, the cg and track width values were separately averaged and these averages were used to calculate the stability factor for that vehicle. It should be noted that the stability factor values for those vehicles which were used in both this analysis and in the Robertson/Kelley report are different. The results of the

expanded analysis of utility vehicles are shown in Table 2 and Figure 1 (in this figure and in Figures 3, 4, and 5, the data points are labeled with the vehicle numbers shown in Table 2). For comparison purposes, the regression in the Robertson/Kelley report was duplicated. Although the exact rollover rate data that they used were not available, values were estimated from their Figure 4. The result of that duplication are shown in Table 3 and Figure 2. Although the slope of the regression line is quite similar to that obtained by Robertson/Kelley in their analysis, the correlation is not nearly as strong as that reported for the data from their report. This result casts doubt on the basic conclusion of the Robertson/Kelley report that the stability factor is a basic predictor of the involvement of utility vehicles in rollover accidents and would lead to the following question: what other factors could be responsible for the over involvement of utility vehicles in fatal rollover accidents?

Another question about the analyses performed by Robertson/Kelley is the appropriateness of using the involvement in an accident as the measure of exposure in accident data analyses. In order to address this question, the data shown in Figure 3 was gathered. This shows the rollover rate, expressed as rollover accidents per 1000 registered vehicle years for 1981-85 FARS data, versus the stability factor for 15 utility vehicles. This shows a much stronger correlation than does the percent of single vehicle accidents used above. This result would tend to support the conclusions of that report. However, realizing that the variable used in that analysis is the ratio of rollovers to

single vehicle accidents and that that ratio was found to be nearly constant for the range of stability factors of utility vehicles, the rate of single vehicle accidents per registered vehicles was also examined, see Figure 4. This comparison shows nearly as strong a correlation as the rollover rate data shown in Figure 3. Although the rollover tendency of utility vehicles may contribute to the number of single vehicle accidents, the level of correlation shown in Figure 4 was examined for the possible influence of other factors.

A review of the center of gravity (cg) data from which the stability factors were generated was conducted. This revealed that the total range of cg's was only 17.5% of the average and if one vehicle with a particularly high cg was removed from he sample the range is less than 12%. Since the stability factor varies directly with the cg height, if the cg variation is not great, the stability factor will reflect variations in the track width more than cg height. Rather than use the track width as a factor to examine (primarily because in gathering the data to generate the stability factors, significant variations in the track width with different wheels and tires was found) wheelbase was used. This substitution was made since track width is basically a measure of vehicle size as is wheelbase, and also an analysis of the correlation of various vehicle variables reported in the Calspan/FHWA report indicated a strong correlation between track width and wheelbase for passenger cars. Figures 5 and 6 show the results of plotting the single vehicle and rollover accident rates, respectively, versus wheelbase. These regressions have much greater correlations than any of the previous ones,

and would indicate that vehicle size may be a much more important factor in accident causation for utility vehicles.

Several analyses of rollover, and single vehicle accidents for passenger cars have indicated a relationship between vehicle size and/or weight with accident involvement. These reports include the NCSA, and the two Calspan studies mentioned earlier. The Calspan/FHWA report in particular has a good review of this issue including discussion of six previous studies as well as an analysis that was performed for their report. Most of these studies used vehicle curb weight as the size variable. In comparing this information to that for the utility vehicles discussed above, the correlation of vehicle variables from the Calspan/FHWA report is of interest since it shows that the correlation of wheelbase to curb weight is the strongest of all the comparisons examined.

Based on these results, it seems that the vehicle factor that seems to have the greater influence on the single vehicle, and therefore the rollover accident involvement, is vehicle size. This is the conclusion that has been reached by several previous studies of passenger cars.

Obviously, simply vehicle size, in and of itself, is not causative in single vehicle and rollover accidents. Other factors which must be generally related to vehicle size are influencing these accident involvements.

Two recent studies conducted for NHTSA's Crash Avoidance Research Division, have attempted to look into the factors that might explain the significant differences

between the single vehicle and rollover accident rates of different make/models of vehicles that are of very similar weight and are of the same market class. In both of these studies, the conclusion was that differences between the vehicles' basic directional control and stability characteristics were probably influential in their markedly different accident experience.

Since a vehicle's directional control and stability characteristics are, to the first order, highly dependent upon the vehicle's wheelbase, it is not surprising that involvement in single vehicle accidents, many of which result from loss of control, would correlate with wheelbase.

Given the high correlation found between single vehicle accident involvement and wheelbase for these utility vehicles, investigation of the possible influence of their vehicle directional control and stability characteristics on accident involvement might be useful in understanding not only utility vehicle accident causation, but also that of other light duty vehicles.

Based on the above information, the conclusion of the petitioner that the rollover accident involvement of utility, as well as other vehicles with relatively low values of stability factor, would be reduced if a minimum requirement for the stability factor were promulgated, is very suspect.

b. Evaluation of the Impact of Other Factors on Accident Involvement

An additional analysis was performed to examine the possible impact of a driver related factor on rollover accident involvement of vehicles. This factor relates to the fourth request made in the subject petition, that the agency "warn owners of vehicles with the greatest propensity for rollover about the limits of the vehicles."

1. Evaluation of the Impact of the Federal Trade Commission/American Motors Corporation Consent Agreement on Accident Involvement of Jeep CJ-model Vehicles.

This analysis was performed to estimate the impact on accident involvement of the "warning" that American Motors Corporation (AMC) sent to the owners of 1972 and later model year Jeep CJ-5, CJ-6, and CJ-7 vehicles as a result of the July, 1982 consent agreement with the Federal Trade Commission (FTC). This was done by examining the change in the single vehicle fatal accident rates (per registered vehicle) from 1980 to 1985 for Jeep CJ-5 and CJ-7 vehicles of 1972 model year and later. This information was then compared to similar data for the other utility vehicles that were included in the analyses discussed earlier and also to single vehicle fatal accident rates for all motor vehicles and for passenger cars. These data are shown in Table 4. Since the FTC consent agreement was signed in early July, 1982 and required AMC to place warning stickers on all new Jeep CJ-models within 120

days and to notify the owners of all 1972 and later Jeep CJ-5, CJ-6 and CJ-7 model vehicles within 150 days, all of these vehicles were labeled by the end of calendar 1982. As such, an analysis was performed comparing the change in single vehicle fatal accident rates, for 1980 and 1981 to that of 1983 and 1984, and the result of these comparisons are shown in Tabes 5 & 6. The reduction in the single vehicle fatal accident rate for the Jeep CJ's compared to the reductions in the rate for the other utility vehicles, passenger cars and all motor vehicles is obvious. Chi-squared tests of whether the reduction in accident rate for the Jeep CJ's is statistically different from that of the other vehicle classes examined were performed and the results are shown in Table 7. These values indicate a level of significance of about 0.01 or better for all comparisons. Although it is not possible to prove that the greater reduction for the Jeep CJ-vehicles is entirely or even partially due to the FTC warning, no other event or factor that could have resulted in such a reduction is known. It would seem that a warning of some type, as suggested in this subject petition, can have a significant effect on vehicle accident involvement.

It was not possible, due to a lack of sufficient data, to assess the possible impact of the "alert" label and information required by NHTSA's Consumer Information Item 105 – "Utility Vehicles," which applies to utility vehicles built after September 1, 1984. It is recommended that when the 1986 FARS data become available that an analysis similar to that reported here be performed for other than Jeep CJ-model vehicles by comparing 1982-83 accident rates to those of 1985-86.

IV. RECOMMENDATIONS:

A. Recommendations Related to the Petitioner's Request

It is recommended that the subject petition be granted in part and denied in part.

As for the first three actions requested by the petitioner (see BACKGROUND section), it is recommended that these portions of the petition be denied on the grounds that the previously discussed analyses indicate that the stability factor proposed in the petition is not an appropriate or accurate predictor of vehicle rollover accident involvement, and that agency action based on it would be unreasonable.

As for other possible rulemaking options that could reasonably and practicably address the rollover accident involvement of vehicles, not enough is known about the factors affecting accident involvement to justify agency action.

As for the fourth of the petitioner's requested actions, this part of the petition should be granted. The analysis of the impact of the FTC warning on accident involvement indicates the possibility of significant reductions in single vehicle accidents by altering driver behavior through information. However, until it is possible to evaluate the impact of the NHTSA Consumer Information Item, Part 575.105 "Utility Vehicles" (CR 105), it may not be possible to determine what precise action is likely to be effective.

A consumer's (driver's) reaction to the certified letter of the FTC warning may be different than that to the information label and owner's manual information required by CR 105. Also, if it is proposed to "warn" owners of existing non-labeled vehicles, how should that be accomplished? Is an NHTSA public information campaign adequate or should the agency try to convince the manufacturers of these vehicles to send letters, not necessarily certified letters such as those required of AMC by FTC, to the owners of vehicles built prior to the [CR-]105 label requirement? An analysis of what would be the most effective action needs to be done. Until that can be accomplished, it is recommended that the agency publish information pamphlets that contain the information now required by CR 105 and also print vehicle stickers such as those required by CR 105 and make those pamphlets and stickers available to owners of utility vehicle not covered by CR 105.

B. Other Recommendations

As part of the discussion indicated, because of their greater involvement in rollover accidents, utility vehicles that have no or only minimal roof structure, have higher rates of occupant fatalities. An evaluation of the possible benefits and impacts of requiring that open and soft top utility vehicles, as well as, those equipped with removable hardtops of minimal structure, offer some minimum level of occupant protection in a rollover crash should be conducted. Obviously, such a requirement, if deemed appropriate, would require the development of new test procedures and requirements to test vehicles equipped the

roll bars or roll cages. it should be noted that an informal review of manufacturers of utility vehicles, that for utility vehicles that do not have a permanent roof structure, all but one such current model year vehicles comes with a roll bar or roll cage as standard equipment.

With regard to those utility vehicles which are equipped with a closed hard top, the analysis done here has not addressed whether the occupant enclosure provides adequate protection in a rollover crash. An analysis of this issue for all light trucks and vans, including multipurpose passenger vehicles, is proposed in the "Light Truck and Van Safety Report to Congress".

As was indicated in the discussion, additional work should be performed to further investigate the effects of vehicle directional control and stability characteristics on the accident involvement of vehicles, including utility vehicles. The work currently being performed and other work being planned by Research and Development's Crash Avoidance Research Division and Vehicle Research and Test Center are a start on such an effort. One related project already planned is a study of the braking and handling characteristics of light trucks and vans. This project should be expanded to specifically include [*sic*] utility vehicles. Also additional work to gather and analyze more in-depth accident data to better understand the crash avoidance characteristics of utility vehicles that lead to both their high rollover and single vehicle accident rates. Once these are better understood, a project to evaluate the directional control and stability characteristics of these

vehicles and the impact of these characteristics on accident involvement can be planned and conducted.

[Attached tables and figures omitted in printing]

PLAINTIFF'S EXHIBIT 35-6

[DOT-NHTSA Logo] Memorandum

Date: April 28, 1987

Subject: ACTION: Draft Evaluation -- Congressman Timothy E. Wirth petition to issue an FMVSS to "limit the rollover propensity of passenger automobiles, utility vehicles and pickup trucks."

From: Michael M. Finkelstein [initialed by him]
Associate Administrator for
Research and Development

To: Barry Felrice
Associate Administrator for
Rulemaking

We have reviewed the subject draft evaluation, and offer the following comments:

Section II B: The previous NHTSA research referred to in this section, i.e., "Development of Vehicle Rollover Maneuver", is not germane to the rollover issue raised in the petition, since it dealt exclusively with the development of a maneuver for untripped rollover on a flat dry pavement. This report, as well as many other studies of vehicle rollover accidents, has concluded that nearly all rollover accidents are of the tripped variety. Therefore it

is not correct to conclude from the results of this study that a valid test for tripped rollover cannot be developed. Indeed, American Motors Corporation has shown videotapes to the NHTSA technical staff of the sled-type tripped rollover test device which they have employed in product liability litigation cases.

Previous research conducted by NHTSA and others concerning the mechanics of vehicle rollover has shown that the vehicle's rollover resistance is dependent to the "first order" on the ratio of the half-track to center of gravity height (rollover stability factor) for both tripped and untripped rollover (See DOT HS-804-089, Development of Vehicle Rollover Maneuver, pp. 12-13). More recent research sponsored by NHTSA on the dynamics of tripped rollover (See User's Guide and Program Description Report 1216-2, 1985) examined the effects of suspension parameters, tire deformations, and various impact conditions on tripped rollover. this is a nonlinear, multi-degree of freedom simulation representing the state-of-the-art in rollover dynamic analysis. It also reveals that the rollover stability factor remains the first order variable in affecting the tripped rollover threshold. This is shown in Figure 1 where the critical lateral velocity at impact needed to just cause tip over is plotted as a function of the rollover stability factor. Considering the basic physics of tripped rollover, it would be surprising indeed if an analysis of the accident data did not show a strong correlation between rollover rate and the rollover stability factor. We believe the accident date confirms the correlation.

Section II C: This section states that "a number of recent accident data analyses were reviewed as part of the analysis of the subject petition". It is clear however, that the inclusion of analyses in this draft has been very selective, and was designed to support a certain Rulemaking position. Other analyses, such as that being conducted by the Office of Crash Avoidance Research using the CARDfile accident data file, have been systematically ignored. We find this to be particularly distressing in light of the effort we expended in briefing the RM staff as to the fact that these analyses were in progress and what the results were indicating.

Section III: This section discusses the reasons for disaggregating the FARS data base into accidents involving only utility vehicles. The two reasons given for this are: 1) "the major focus of the request (petition) relates to utility vehicles." 2) "an analysis of the effects of vehicle, driver, environment and usage factors is most appropriately done by considering only one class of vehicle since many of the vehicle's basic characteristics, its accident exposure, and its involvement in various accident types are related to the mission and driver for which it was designed." In general, we would agree with this approach, provided that the latter statement were tested and shown to be true. However, the draft evaluation, simply drops the subject at this point, as if the mere stating of this thesis makes it true. We have examined this assertion using CARDfile and find that it cannot be sustained by an impartial examination briefly, the size and scope of the CARDfile dataset used in this and subsequent analyses.

A subset of the total CARDfile database has been used, which consists of data from the states of Maryland (84-84), Texas (84-85), and Washington (83-85). A series of 19 passenger cars and 8 utility vehicles has been selected for analysis. Tables 1-8 identify the vehicle types, model years studied, their geometrical and center of gravity characteristics, and the number of rollover (RO) and single vehicle accidents (SVA) contained in each of the component and combined state files. The vehicles were chosen such that they would span, without significant gaps, the complete range of rollover stability factors from low slung American passenger cars such as the Chevrolet Camaro to tall vehicles such as the Jeep CJ-5. Table 9 provides an overall summary of the passenger vehicle and utility vehicle count in each of the state data sets used, as well as the totals.

Using these datasets, the subclasses of passenger cars and utility vehicles were tested for differences in each of 19 different factors, related to usage and risk exposure. The factors tested are listed in Table 10 and the results of this analysis are presented in bar chart form in Figures 2 and 3. Figure 2 shows the relative content of the dataset for utility vehicles and passenger cars broken down by each of the 19 risk factors. Those factors which showed a greater relative presence in the dataset were further examined by comparing the percent RO/SVA for utility vehicles against passenger cars. It can be observed from this data that no significant difference can be detected in usage or risk factors between the class of utility vehicles and passenger cars which would justify their disaggregation. We shall

return to this question again later, during the discussion of the regression analysis using the CARDfile data. It should also be noted in passing, that there is no rationale based on the physical disaggregation employed in this draft evaluation.

Section III A: The draft evaluation refers to a study entitled "A Comparison of Light Truck and Passenger Car Occupant Protection", performed by CALSPAN for the MVMA. Table 1 from the CALSPAN report is reproduced and the conclusion is drawn that "utility vehicles overall are not involved in more accidents . . .". However, the CALSPAN report itself refrains from making any judgments relative to utility vehicles based on the data collected in the study. The following quote is taken from the conclusion section of the CALSPAN report (p.38): "Utility vehicles were deliberately omitted from conclusion (2) and (4), because of ambiguous results on that vehicle type. The small numbers of utility vehicles made it difficult to compare them with the other vehicles when controlling for confounding variables. While some of the results suggested high injury risks for utility vehicle drivers, the net results for utility vehicles are considered inconclusive."

Several references are cited in this section, to assess the overall safety record of utility vehicles. It would seem relevant to include in this assessment the conclusions from the most recent IIHS Status Report, Vol. 22, No. 2, published in February 28, 1987, entitled "Vehicle Size and Death Rates". This report contains an analysis of fatality

rates by vehicle type, and is based on FARS data for the years 1981-1985. We quote from page 4 of this report: "Small utility vehicles have, by a wide margin, the worst (occupant death) record of all. With 5.7 occupant deaths for every 10,000 registered in this category, these vehicles far outstrip automobiles and pickups in their fatality experience."

Section III C 1: This section addresses the shortcomings of the Kelly-Robertson report by reference to a critique of the analysis technique prepared by MCSA. It is notable, that despite flaws in the Kelly-Robertson report, NCSA concludes on page 1 of its critique the following: "In all likelihood, stability (factor) is an important consideration in the analysis of rollovers as the research of other authors such as Reinfurt et.al. (1980) has previously suggested." In fact, we are not aware of any research, either in the dynamics of vehicle rollover or in the statistical analysis of rollover accident data, that reaches a conclusion to the contrary, with the one exception of the present RM draft evaluation paper.

Section III C 2 a: In this section, univariate regression analyses are performed of RO/SVA versus rollover stability factor, using a subset of passenger vehicles consisting of only utility vehicles. While we are in agreement with the arguments set forth for using SVA as the exposure metric, we strongly disagree with the use of the FARS database to study vehicle rollover propensity. This was a significant flaw in the Kelly-Robertson paper, and it is no less a flaw in this draft evaluation. The FARS

database is so strongly biased towards crashworthiness factors, such as roof crush strength, occupant ejection, steering column impalement, etc., as to make it completely inappropriate for the study of the relationship between rollover propensity and vehicle design characteristics. A much more reliable database, for this purpose, would be one in which all rollover and all single vehicle accidents regardless of injury level, was represented. The large state accident files or the CARDfile adaptation of these would be a suitable database for this application, but certainly not the FARS database. We note, interestingly, that the recent IIHS study cited above, which employed the FARS database, refrained from drawing any conclusions with respect to the rollover propensity of any particular make/model of vehicle.

As stated earlier, we also strongly disagree with the disaggregation of utility vehicles into a subclass for the purpose of analyzing the relationship between rollover rate and rollover stability factor. In addition to the reasons cited earlier, we submit that the restriction of the range of the independent variable, in this case the rollover stability factor, in any statistical regression analysis will invariably lead to larger effective scatter and lower correlation, regardless of the data being analyzed. Low correlations between the dependent variable (Percent RO/SVA) and the independent variable (Rollover Stability Factor) achieved in this way cannot be used as a basis for rejecting a much higher degree of correlation that exists when the unrestricted variable range is used. The situation is analogous to denying that a correlation exists between

height and ability to play basketball, simply because no strong correlation was found when the population was restricted to the subclass of professional basketball players. Moreover, it is clear from an examination of the accident record itself that we are not dealing with separate data class here, i.e., one for utility vehicles and one for passenger cars. If this were so, one would expect to see the data arranged in separate and distinct clumps or clusters, as opposed to a continuous band. A scatter plot of the CARDfile date (Percent RO/SVA versus Rollover Stability Factor) for the various passenger car and utility vehicles that we have analyzed is presented in Figure 4. Obviously there is no indication that these data belong to separate classes. As a further test of this conclusion, we have plotted the residuals from a linear regression fit of this data in Figure 5. As can be seen, these tend to cluster more or less uniformly around the zero axis, again indicating that the data belong to a single class.

The scatter plot and linear regression line for the total combined dataset (MD 84-85, TX 84-85, WA 83-85) are shown in Figure 6. This data set contains 39,956 single vehicle accidents and 4,910 rollover accidents for the sample vehicles. The R-squared statistic for this regression is 0.86, which indicates a very robust correlation between RO/SVA and rollover stability factor. This is to be expected based on the physical dynamics of vehicle rollover, as was discussed earlier.

The latter part of this section strikes us as an exercise in tortured logic which attempts to force unwilling data to fit a specious hypothesis, i.e., that the primary vehicle

parameter that influences rollover is vehicle size rather than rollover stability factor. After having endorsed the Kelly-Robertson metric for rollover risk (Percent RO/SVA) in the first part of this section with the statement, "This (Percent RO/SVA) is the much more common approach to examining rollover tendencies, and is used in many of the earlier reports referenced in the Calspan/FHWA report.", it is then rejected in the second part in favor of Rollovers/1,000 Registered Vehicles. The draft evaluation is curiously silent on just why this new measure of rollover risk is superior, given that nearly all rollover accidents involve single vehicles. Notwithstanding this, the draft paper goes on to a linear regression analysis of RO/1,000 Registered Vehicles against rollover stability factor, obtaining as a result a higher correlation than was obtained using Percent RO/SVA, i.e., R-squared of 0.4063 versus 0.2086. This is quite an interesting result. However, we are motivated to ask why this should be the case, given the nature of the risk factor employed. We have attempted to duplicate this result using the combined CARDfile dataset consisting of MD(84-85) and TX(84-85). The result is given in Table 11. A comparison of the R-squared statistic can also be found in this table for both regressions using Percent RO/SVA and RO/1,000 Registered Vehicles. It is seen that the R-squared statistic is degraded from 0.84 to 0.66 when changing the rollover risk metric. It is likely that the result reported in the draft evaluation paper, which shows an increase in correlation when using RO/1,000 Registered Vehicles, is a spurious one, resulting from using the FARS database, and data with restricted range of the rollover stability factor.

The draft evaluation goes on the argue that since the variation in vehicle center of gravity is not great, the rollover stability factor will depend primarily on the track width. We have analyzed the data in Attachment 11 of the draft paper and find that the variation in the center of gravity height that was a cited in not significantly different from that of the track width, i.e., %15.88 for center of gravity height versus %22.87 for track width (See figure 7 and Table 12). Nonetheless, it is then argued that since track width and wheelbase are both surrogate variables for vehicle size, and since wheelbase has lower inherent variability than track that wheelbase should be used as the independent regression variable. When linear regressions are performed of SVA/1000 Registered Vehicles, and RO/1000 Registered Vehicles against wheelbase, very high R-squared values of 0.835 and 0.837 are obtained respectively. It is then concluded that; "Based on these results, it seems that the vehicle factor that seems to have the greater influence on the single vehicle, and therefore the rollover accident involvement, is vehicle size. This is the conclusion that has been reached by several previous studies of passenger cars." We do not believe that this convoluted sequence of logic has proven anything of the kind, nor are we aware of any "previous studies" that have shown that vehicle size rather than rollover stability factor is the primary vehicle variable in predicting rollover rate. Interestingly, these "several previous studies" have not been identified in the list of references attached to this paper.

We believe that the draft paper, in its desire to identify some variable other than rollover stability factor as the

principal parameter in rollover accidents, has simply misinterpreted the role of wheelbase and track width. As the paper notes, these two factors are covariate, i.e., longer vehicles tend to have wider tracks and shorter vehicles tend to have narrower tracks. Consequently, they correlate with one another to a high degree. This is shown in Table 13 wherein various single and normalized vehicle parameters are correlated with one another for all the vehicles used previously in the CARDfile analysis. Given this fact, the track and wheelbase, when normalized by the center of gravity height, would also be expected to correlate. In fact, the normalized variables correlate better with one another than the track and wheelbase alone, as Table 13 and Figure 8a show. This indicates that T/2Hcg and L/Hcg are in effect surrogate variables, and that anything that correlates with one of them will also correlate with the other. This is indeed the case as is center of gravity height rather than against the rollover stability factor. Therefore, far from showing that vehicle size is a fundamentally different and more important parameter in rollover accidents than rollover stability factor, the draft paper has simply reaffirmed that wheelbase and track are covariate quantities.

Before leaving this section, we would like to offer an observation as to why the degree of correlation seems to improve when wheelbase is substituted for rollover stability factor as shown in Figure 3 and Figure 6 of the draft evaluation paper. When RO/1000 Reg. Vehicles is regressed against rollover stability factor, the R-squared statistic is 0.4063 (Figure 2), as opposed to an R-squared of 0.8371 when the independent variable is wheelbase

(figure 6). In this case, restricting the range of the independent variable has another consequence, in addition to those that we have mentioned previously. This is that the restricted range is also the range which has the greatest uncertainty associated with the independent variable. This is because utility vehicles are often equipped with oversize tires and/or raised suspensions, which alters the effective track width as well as the center of gravity height. Wheelbase is not subject to his variability, however, and is probably a better surrogate variable for the mean rollover stability factor than the average values computed from the data given in Attachment 11 of the draft evaluation. However, simply because this is true for a restricted class of vehicles does not imply that wheelbase or vehicle size is the primary vehicle parameter associated with rollover risk.

Lastly, while we have objected throughout this memorandum in disaggregating utility vehicles from passenger vehicles, we have nevertheless adopted this method to determine the extent to which the correlation between RO/SVA and rollover stability factor is degraded, when a database other than FARS is used. For this purpose, the utility vehicles listed in Table 1 were taken as a class and their rollover rate was regressed against rollover stability factor, as shown in Figure 9. The R-squared statistic for this regression is 0.50. Although the correlation is significantly reduced compared to the correlation obtained when automobiles and utility vehicles are treated as a single class, it nevertheless still indicates a strong relationship between rollover rate and rollover stability factor. This is in contrast to the data shown in

Figure 1 of the draft paper, which show essentially no correlation between RO/SVA and rollover stability factor for fatal accidents.

Section IV A: One may conclude from the above analysis that:

(1) Rollovers are highly dangerous accidents.

(2) Utility vehicles are more likely to be involved in rollover crashes than most other types of vehicles.

(3) Vehicles' stability factors are strongly related to their propensity to roll over. This has been clearly demonstrated for passenger cars and utility vehicles.

We therefore concur that the petition has raised and documented, with the Kelly and Robertson report, an important highway safety issue. We disagree with the denial of the first three actions of the petition based on the criteria "that the previously discussed analyses indicate that the stability factor proposed in the petition is not an appropriate or accurate predictor of vehicle rollover accident involvement, and that agency action based on it would be unreasonable." We do not believe that the analysis provided in RM's draft evaluation can support this denial.

Further, this agency is about to send the Light Truck/Van Report to Congress. In that report, we provide information showing that multi-purpose passenger vehicles have a

rollover rate (per registered vehicle) of about three times that found for cars. Clearly these vehicles (MPV's) are distinct from passenger cars and we should study them to find out why.It is RD's recommendation that once the petition is granted, all relevant data and analyses available, be placed in the docket and that we solicit public opinion as to their merit. Proposed research, undertaken to improve our understanding of the mechanisms behind these accidents and the relative efficacy of various possible countermeasures, should also be made openly available for public appraisal.

The improved crash avoidance measures undertaken could include anti-lock braking systems, which would prevent the vehicles from going out of control during panic stops. Increased turning radii might also prevent a limited number of these accidents. Also, we recommend that in addition to the studies suggested by the draft evaluation, the agency immediately undertake the development of a tripped rollover test devise similar to the sled device used by American Motors Corporation. This apparatus should then be used to evaluate and rank order the tripped rollover propensity of all new utility vehicles and light trucks. This information could be widely disseminated in a fashion similar to that utilized in the New Car Assessment Program, thereby providing important knowledge to safety conscious consumers who are considering purchasing this type of vehicle.

Crashworthiness countermeasures might include improved rollbars, glazing and side protection strengthening devices.

We may also wish to consider a safety belt systems which will promote their use. Restraint use should be extremely effective in providing a significant margin of extra protection for all occupants. It is suggested that, in our response to the petitioner, we state our intention to issue an Advanced Notice of Proposed Rulemaking for improved occupant protection in rollovers of utility vehicles.

A typographical error was found on page 11. On the 9th line under Other Recommendations, the phrase "test vehicles equipped the roll bars", the would should be "with".

Attachment 11: The center of gravity height value for the Chevrolet Blazer is in error. According to the report No. VRTC-87-0061, entitled "Center of Gravity Height Measurements for Selected Cars and Utility Vehicles", the correct value should be 27.20 inches.

[Attachments, tables and figures omitted in printing]

cc: Chief Counsel
Associate Administrator for Plans and Policy
Associate Administrator for Enforcement